

**RULES
OF
DEPARTMENT OF COMMERCE AND INSURANCE
DIVISION OF FIRE PREVENTION**

**CHAPTER 0780-2-15
BLASTING STANDARDS**

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0780-2-15-.01 DEFINITIONS.

- (1) For purposes of this chapter, except where the context otherwise requires, the definitions applicable to this chapter are those found in Tenn. Code Ann. § 68-105-102. In addition, the following definitions are applicable to the standards adopted in rule 0780-2-15-.02:
- (a) “Blast area” means the area including the blast site and the immediate adjacent area within the influence of flying rock, missiles and concussion.
 - (b) “Blast site” means the area where explosive material is handled during loading of the blast hole, including fifty (50) feet in all directions from the perimeter formed by the loaded holes. A minimum of thirty (30) feet can replace the fifty (50) feet requirement if the perimeter for loaded holes is marked and separated from the non-blast site areas by a barrier. The fifty (50) feet distance requirements, as applicable, apply in all directions along the full depth of the blasthole. In underground blasts, at least fifteen (15) feet of solid rib, pillar or broken rock can be substituted for the fifty (50) feet distance.
 - (c) “Blast zone” means the area beyond the blast area that may be influenced by blasting operations. Areas beyond the initial blast area must have reasonable precautionary measures such as posting of signs and guards and redirection of traffic.
 - (d) “Binary explosive” means a blasting explosive formed by mixing or combining two (2) plosophoric materials which must be specifically packaged for that purpose (for example, ammonium nitrate and nitromethane).
 - (e) “Bulk mix” means a mass of explosive material prepared for use in bulk form without packaging.
 - (f) “Bulk mix delivery equipment” means equipment (usually a motor vehicle with or without a mechanical delivery device) that transports explosive materials in bulk form for mixing or loading directly into boreholes or both.
 - (g) “Fire-resistant construction” means construction designed to provide reasonable protection against fire. For exterior walls of magazines constructed of wood, this is defined as the fire resistance equivalency provided by sheet metal of not less than twenty-six (26) gauge.
 - (h) “Flyrock” means any dirt, mud, stone, fragmented rock or other material that is displaced from the point of the blast, traveling in the air or along the ground.

(Rule 0780-2-15-.01, continued)

- (i) “Inhabited building” means any building or structure regularly used in whole or part as a place of human habitation. The term includes any church, school, store, railway passenger station, airport passenger terminal and any other building or structure where people are accustomed to congregate or assemble. The term does not include any building or structure occupied in connection with the manufacture, transportation, storage, or use of explosive materials.
- (j) “Labeled” means equipment or materials to which has been attached a label, symbol or other identifying mark of an organization that is acceptable to the Commissioner or his or her authorized representative and concerned with product evaluation that maintains periodic inspection of production of labeled equipment or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.
- (k) “Listed” means equipment, materials or services included in a list published by an organization acceptable to the Commissioner or his or her authorized representative and concerned with evaluation of products or services that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services and whose listing states either that the equipment, material or service meets identified standards or has been tested and found suitable for a specified purpose.
- (l) “Manufacturing” means mixing, blending, extruding, assembling, disassembling, chemical synthesis and other functions involved in making a product or device that is intended to explode.
- (m) “Phosphoric materials” means two (2) or more unmixed, commercially manufactured, prepackaged chemical ingredients (including oxidizers, flammable liquids or solids or similar ingredients) that are not classified as explosives but that, where mixed or combined, form a blasting explosive.

Authority: T.C.A. §§68-105-108 and 68-105-116. **Administrative History:** Original rule filed July 11, 1991; effective August 25, 1991. Amendment filed February 13, 2003; effective April 29, 2003.

0780-2-15-.02 MINIMUM STANDARDS FOR BLASTING; ADOPTION BY REFERENCE.

- (1) Unless otherwise provided by applicable law or the provisions of this Chapter, the required minimum standards for blasting in the State of Tennessee shall be those prescribed in Tenn. Code Ann. Title 68, Chapter 105, et seq. and those in the following publications:
 - (a) The following portions of the Code of Federal Regulations (CFR) that pertain to a specific explosive situation or application:
 - 1. Code of Federal Regulations, Title 27, Alcohol, Tobacco, Firearms and Explosives (ATF), Chapter II, Bureau of Alcohol, Tobacco, Firearms and Explosives, Department of Justice, Subchapter C, Explosives, Part 555 Commerce in Explosives (most recent edition). This CFR includes conduct of business, storage of explosives and magazine construction.
 - 2. Code of Federal Regulations, Title 49, Transportation, Subtitle B, Other Regulations Relating to Transportation, Chapter I, Research and Special Programs Administration, Department of Transportation, Subchapter C, Hazardous Materials Regulations, Part 172 Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements, Part 173 Shippers, General Requirements for Shipments and Packagings, Part 177, Carriage by Public Highway and Part 178, Specifications for Packagings (most recent edition). This CFR includes classification, packaging and transportation.

(Rule 0780-2-15-.02, continued)

3. Code of Federal Regulations, Title 49, Transportation, Subtitle B, Other Regulations Relating to Transportation, Chapter III, Federal Motor Carrier Safety Administration, Department of Transportation, Subchapter B, Federal Motor Carrier Safety Regulations, Part 383, Commercial Driver's License Standards; Requirements and Penalties, Part 384, State Compliance with Commercial Driver's License Program, Part 393, Parts and Accessories Necessary for Safe Operation, Part 396, Inspection, Repair, and Maintenance and Part 397, Transportation of Hazardous Materials; Driving and Parking Rules (most recent edition). This CFR includes transportation of explosives.
 4. Code of Federal Regulations, Title 29, Labor, Subtitle B, Regulations Relating to Labor, Chapter XVII, Occupational Safety and Health Administration, Department of Labor, Part 1910, Occupational Safety and Health Standards, Subpart H, Hazardous Materials and Part 1926, Safety and Health Regulations for Construction, Subpart U, Blasting and the Use of Explosives (most recent edition). This CFR includes materials hazard communications and work place safety around blasting and drilling operations.
 5. Code of Federal Regulations, Title 30, Mineral Resources, Chapter I, Mine Safety and Health Administration, Department of Labor, Subchapter K, Metal and Nonmetal Mine Safety and Health, Part 56, Safety and Health Standards, Surface Metal and Nonmetal Mines, Subpart E, Explosives and Part 57, Safety and Health Standards, Underground Metal and Non-Metal Mines, Subpart E, Explosives and Subchapter O, Coal Mine Safety and Health, Part 72, Health Standards for Coal Mines and Part 75, Mandatory Safety Standards, Underground Coal Mines, Subpart N, Explosives and Blasting (most recent edition). This CFR includes mine safety.
 6. Code of Federal Regulations, Title 30, Mineral Resources, Chapter VII, Office of Surface Mining Reclamation and Enforcement, Department of the Interior (most recent edition). This CFR includes blasting in open pits and coal mines, blasting in proximity of inhabited buildings, pre-blast surveys and notification of plans to conduct blasting.
- (2) The codes adopted by reference herein shall not be construed as adopting any agency or procedure for administration or enforcement purposes.
 - (3) In the event of a conflict or inconsistency among codes adopted by reference herein, the more stringent code provision shall prevail, except as specified in paragraph (4) below.
 - (4) All persons governed by this rule shall conform to the adopted standard that is specifically applicable to the application or endeavor.

Authority: T.C.A §§68-105-108 and 68-105-116. **Administrative History:** Original rule filed July 11, 1991; effective August 25, 1991. Amendment filed February 13, 2003; effective April 29, 2003.

0780-2-15-.03 REGISTRATION AND FEES.

- (1) The Department shall have the following four (4) classifications of registration:
 - (a) Blaster;
 - (b) Limited Blaster;
 - (c) Handler; and
 - (d) Firm.
- (2) An applicant for registration as a blaster shall:

(Rule 0780-2-15-.03, continued)

- (a) Submit a non-refundable application fee of fifteen dollars (\$15.00) with the application form prescribed by the Department;
 - (b) Pass the examination prescribed by the Department;
 - (c) Provide proof of having obtained one (1) year previous practical experience under the supervision of a registered, experienced blaster; and
 - (d) Pay a registration fee of one hundred twenty dollars (\$120.00).
- (3) An applicant for registration as a limited blaster shall:
 - (a) Submit a non-refundable application fee of fifteen dollars (\$15.00) with the application form prescribed by the Department;
 - (b) Pass the examination prescribed by the Department;
 - (c) Provide proof of having obtained one (1) year previous practical experience under the supervision of a registered, experienced limited blaster; and
 - (d) Pay a registration fee of seventy-five dollars (\$75.00).
- (4) An applicant for registration as a handler shall:
 - (a) Submit a non-refundable application fee of fifteen dollars (\$15.00) with the application form prescribed by the Department;
 - (b) Submit a registration fee of thirty dollars (\$30.00) with the application form prescribed by the Department; and
 - (c) Certify, by means of the applicant's signature, knowledge of storage, security and accountability regulations established by applicable statutes, rules, and adopted standards.
- (5) An applicant for registration as a firm shall:
 - (a) Submit a non-refundable application fee of fifteen dollars (\$15.00) with the application form prescribed by the Department;
 - (b) Submit a registration fee of one hundred fifty dollars (\$150.00) with the application form prescribed by the Department; and
 - (c) Submit proof of insurance required by Tenn. Code Ann. § 68-105-112.
- (6) An applicant for registration by reciprocity shall submit an application. The application must be accompanied by a non-refundable application fee of fifteen dollars (\$15.00), the registration fee required by this chapter and a letter of good standing from the reciprocal state. The registration fee will be determined by the above-referenced classification scheme.
- (7) A certificate of registration shall expire three (3) years following the date of its issuance or renewal and is invalid on that date unless renewed. Each registrant shall be required to renew by submitting an application for the same to the Department, along with a renewal fee of one hundred twenty dollars (\$120.00) for blasters, seventy-five dollars (\$75.00) for limited blasters, thirty dollars (\$30.00) for handlers, and one hundred fifty dollars (\$150.00) for firms.

(Rule 0780-2-15-.03, continued)

- (8) An applicant for renewal of a blaster's, limited blaster's or handler's registration shall also submit proof of having obtained the continuing education credits, required in rule 0780-2-15-.05 of this chapter during the preceding renewal period.
- (9) A late fee of twenty-five dollars (\$25.00) will be assessed against a registrant who renews registration late, but before one (1) year after the date of its expiration. An application must be submitted along with the applicable renewal fee to the Department.
- (10) A registrant who fails to renew registration within one (1) year after expiration shall reapply for registration, pay the applicable fee and take the examination approved by the Department.
- (11) The Department will issue to each registrant a pocket identification card.
- (12) An applicant who fails an examination for registration may retake the examination after thirty (30) days after the test date without paying another application fee. An applicant who fails the examination twice shall reapply and pay the required application fee.
- (13) Registration certificates or pocket identification cards that have been lost, misplaced or destroyed may be replaced upon submission of a fee of fifteen dollars (\$15.00).
- (14) No registration issued under this chapter may be assigned or transferred.

Authority: T.C.A. §§68-105-106, 65-105-108, 68-105-112, 68-105-113, 68-105-114, 68-105-116, and 68-105-121.

Administrative History: Original rule filed July 11, 1991; effective August 25, 1991. Amendment filed February 13, 2003; effective April 29, 2003.

0780-2-15-.04 CLASSIFICATIONS OF REGISTRATION.

- (1) Blaster:
 - (a) A blaster is a person who is in responsible charge of any or all of the following during a blasting operation:
 - 1. Direct supervision of the loading of explosives and firing of a blast;
 - 2. Testing/inspection of initiation systems;
 - 3. Control of initiation devices;
 - 4. Completion and signature of the blaster's report and or blast records;
 - 5. Duties of handler as described in (3) below.
 - (b) The blaster shall be present when the charge is detonated.
 - (c) The blaster shall complete and sign a record for each blast pursuant to the requirements of Tenn. Code Ann. § 68-105-107.
- (2) Limited blaster:
 - (a) A limited blaster is a person who is in responsible charge of individual blasts that shall not exceed five (5) pounds of explosives for each blast. A limited blaster is a person who is in responsible charge any or all of the following for individual blasts:
 - 1. Direct supervision of loading of explosives and firing of a blast;

(Rule 0780-2-15-.04, continued)

2. Testing/inspection of initiation systems;
 3. Control of initiation devices;
 4. Completion and signature of the blaster's report and or blast records;
 5. Duties of handler as described in number three (3) below.
- (b) The limited blaster shall be present when the charge is detonated.
- (c) The limited blaster shall complete and sign a record for each blast pursuant to the requirements of Tenn. Code. Ann. § 68-105-107.
- (3) Handler:
- (a) A handler is a person who engages in any or all of the following activities:
1. Ensures the explosives in the handler's control are secured;
 2. Ensures explosives are properly stored in approved magazines or are properly attended;
 3. Directs the transportation of explosives;
 4. Maintains inventory of explosive materials.
- (b) A handler shall comply with all applicable statutes, rules and adopted standards.
- (c) A handler may engage in blasting activity; provided, the handler engages in such operations under the direct supervision of a blaster or limited blaster.
- (4) Firm:
- (a) A firm is an entity engaged in blasting activity which purchases, receives or takes possession of explosives.

Authority: T.C.A. §§68-105-106, 68-105-108, 68-105-113, 68-105-114, and 68-105-116. **Administrative History:** Original rule filed July 11, 1991; effective August 25, 1991. Amendment filed February 13, 2003; effective April 29, 2003.

0780-2-15-.05 CONTINUING EDUCATION.

- (1) Beginning January 1, 2004 and as a prerequisite to renewing registration, the registrant shall have obtained the following continuing education credit:
- (a) For renewals in 2004, five (5) hours of continuing education credits will be required for blasters; three (3) hours of continuing education credits will be required for limited blasters and two (2) hours of continuing education credits will be required for handlers.
- (b) For renewals in 2005, eight (8) hours of continuing education credits will be required for blasters; four (4) hours of continuing education credits will be required for limited blasters and three (3) hours of continuing education credits will be required for handlers.

(Rule 0780-2-15-.05, continued)

- (c) For renewals in 2006 and thereafter, sixteen (16) hours of continuing education credits will be required for blasters; eight (8) hours of continuing education credits will be required for limited blasters and six (6) hours of continuing education credits will be required for handlers.
- (2) A continuing education course must be approved by the Commissioner or his or her authorized representative before the registrant will be granted credit for the course.
- (3) The registrant shall provide verification to the Commissioner or his or her authorized representative of having obtained the continuing education credits required by this rule. Verification consists of a form certifying attendance at the course and the number of continuing education hours obtained at the course and signed by both the registrant and the course instructor.
- (4) The registrant shall submit to the Commissioner or his or her authorized representative the registrant's verification form after taking the course and prior to the expiration of his or her registration. The registrant is responsible for ensuring timely submittal of the required verification. Documentation that shows that the registrant self-taught himself or herself without course instruction will not be accepted for continuing education credit.
- (5) In order to obtain approval to provide course instruction, the course provider shall submit to the Commissioner or his or her authorized representative materials including an outline of the course instruction, biography of the instructor, the methods and tools that will be utilized in the course, number of instruction hours provided and the dates and times the course will be offered. A course provider seeking approval of a course pursuant to this paragraph shall submit the required documentation no later than ten (10) business days prior to the first offering of the course.
- (6) A blaster, limited blaster or handler may apply on an individual basis for continuing education credit for a course which has not been approved in advance by the Commissioner or his or her authorized representative by submitting an agenda, number of instructional hours provided, the dates and times the course was offered, verification of attendance by both the registrant and the course instructor and any additional information requested by the Commissioner or his or her authorized representative as necessary for review of the course. A blaster, limited blaster or handler seeking approval of a course pursuant to this paragraph shall submit the required documentation no later than thirty (30) days after having taken the class. No credit for the course will be awarded unless and until the course is approved by the Commissioner or his or her authorized representative.
- (7) Credit may be granted for educational offerings which cover blasting-related topics such as those listed in paragraph (8) below which are consistent with the purpose of continuing education. Training may include a combination of classroom and/or practical field exercises.
 - (a) The viewing of video tapes is not acceptable for continuing education credit unless incorporated into a course wherein an instructor is available to accurately respond to questions raised from the viewing and correct any outdated information contained in the video tape.
 - (b) Acceptable sources of training are any in-state or out-of-state individuals, associations or entities that provide or deliver courses of instruction, training or educational sessions.
- (8) The following list is not a complete list of continuing education topics, but the list represents acceptable course content:
 - (a) Job site:
 - 1. Blast planning (including measuring the blast zone and selection of the drill bit size);
 - 2. Blast site safety (including loading of holes, initiation of the blast and firing of the shot);

(Rule 0780-2-15-.05, continued)

- (b) Commerce in explosives (Federal and State requirements);
- (c) United States Department of Transportation requirements (including proper packaging and labeling and commingling hazardous material);
- (d) Subjects related to explosives, which can include the following:
 - 1. New products;
 - 2. Magazine housekeeping;
 - 3. Blast design;
 - 4. Safety;
 - 5. Packing and unpacking explosives;
 - 6. Storage practices;
 - 7. Magazine construction;
 - 8. Placarding;
 - 9. Handling misfires.
- (9) Registrants who take more than the required continuing education for the previous renewal period will not be permitted to carry-over the credit hours into the next renewal cycle.
- (10) The Commissioner may conduct random audits of registrants and continuing education courses to assure compliance with this rule. Each registrant is responsible for maintaining sufficient records which may be used to support claimed continuing education credits.

Authority: T.C.A. §§68-105-108, 68-105-116, and 68-105-121. **Administrative History:** Original rule filed July 11, 1991; effective August 25, 1991. Amendment filed February 13, 2003; effective April 29, 2003.

0780-2-15-.06 BLASTING RESTRICTIONS.

- (1) Flyrock traveling in the air or along the ground that could result in personal injury or property damage shall not be cast from the point of the blast.
- (2) The Commissioner or his or her authorized representative may require that special precautions be employed to reduce or control flyrock when a flyrock violation results from a blasting operation.
- (3) Unless prior approval has been given by the Commissioner or his or her authorized representative, tunneling and surface blasting operations shall only be conducted during daylight hours. A written request for approval for blasting during nighttime hours must be submitted to the Commissioner or his or her authorized representative at least five (5) days in advance of the blasting operation at night. The Commissioner or his or her authorized representative may grant an exception to the five (5) day advance notice requirement in emergency circumstances as long as the Commissioner or his or her authorized representative has sufficient relevant information concerning the blasting operation to make a determination.
- (4) A written request for approval of all non-emergency variations from the law or rules will require five (5) days advance notice to the Commissioner or his or her authorized representative. The Commissioner or his or her authorized representative may grant an exception to the five (5) day

(Rule 0780-2-15-.06, continued)

advance notice requirement in emergency circumstances as long as the Commissioner or his or her authorized representative has sufficient relevant information to make a determination.

Authority: T.C.A. §§68-105-108 and 68-105-116. **Administrative History:** Original rule filed July 11, 1991; effective August 25, 1991. Amendment filed February 13, 2003; effective April 29, 2003.

0780-2-15-.07 BLASTING STORAGE AND DESTRUCTION OF MATERIALS.

(1) Blasting Storage

- (a) Temporary storage. Explosives may be stored in an approved Type 2 or Type 3 magazine or day box for one (1) day's usage only during daytime blasting operations and must be removed from temporary storage at the end of the work day. If the blasting firm or blaster has requested the Commissioner or his or her authorized representative to approve blasting at night, then the Commissioner or his or her authorized representative shall also consider appropriate requests to approve the extended use of the temporary storage during the nighttime blasting operations. The magazine or day box must be attended by a blaster, limited blaster or handler who has access to and knowledge of the contents. A blaster, limited blaster or handler must also be actively and directly in contact with, or within the sight of, without the aid of telescopic optical equipment or electronic devices, the temporary storage to maintain sufficient control.
- (b) If the Commissioner finds emergency circumstances exist, in order to protect the safety and wellbeing of the public and individuals connected to the blasting operation, the Commissioner may direct his or her authorized representative to barricade the storage containers, relocate the explosive materials, or restrict the quantity of explosive materials that are handled at any temporary storage location.
- (c) The blaster, limited blaster, handler or blasting firm shall post the following warning sign on all normal access roads to unattended explosive storage magazines:

DANGER
NEVER FIGHT EXPLOSIVE FIRES
EXPLOSIVES ARE STORED ON THIS SITE
CALL_____

The sign shall be weather-resistant with a reflective surface and lettering at least two (2) inches or fifty (50) millimeters high.

- (d) The blaster, limited blaster, handler or blasting firm shall provide reasonable precautionary measures such as posting of signs and guards and redirection of traffic in areas beyond the initial blast area in the blast zone.

(2) Destruction of Materials

- (a) In the event that it becomes necessary to destroy any explosives that present an immediate risk to people or property, all handling of explosives shall cease and the manufacturer or the Commissioner or his or her authorized representative shall be contacted immediately for assistance in coordination with other law enforcement officials. The manufacturer's directions for destruction shall be followed without deviation unless otherwise directed by the Commissioner or his or her authorized representative.

Authority: T.C.A. §§68-105-108 and 68-105-116. **Administrative History:** Original rule filed July 11, 1991; effective August 25, 1991. Amendment filed February 13, 2003; effective April 29, 2003.

0780-2-15-.08 PLOSOPHORIC MATERIALS OR BINARY MATERIALS.

- (1) Mixed or combined plosophoric materials are explosive materials and shall be stored and used in the same manner.
- (2) Storage. Plosophoric materials shall be permitted to be stored in the same magazine with explosive materials, provided their total weight is included in the weight of explosives permitted in the magazine in order to comply with the quantity-distance requirements of the American Table of Distances for Storage of Explosives. Storage shall not introduce a hazard due to chemical incompatibility.
- (3) Use
 - (a) Binary or plosophoric materials shall be mixed or combined at the point of use and the procedures recommended by the manufacturer shall be followed strictly.
 - (b) Because the mixing or combining of plosophoric components produces an explosive material, the number of packages of the binary/plosophoric material combined at any one time shall be limited to the number needed for immediate use. The Commissioner or his or her authorized representative may waive this limitation upon appropriate request; provided, the extra binary/plosophoric material produced can be handled and stored in the same manner as explosive material.
- (4) Record Keeping and Reporting
 - (a) Thefts of plosophoric materials during transportation, storage and use shall be reported to the Commissioner or his or her authorized representative and law enforcement, as required for loss or thefts of explosive materials.

Authority: T.C.A. §§68-105-108 and 68-105-116. **Administrative History:** Original rule filed July 11, 1991; effective August 25, 1991. Amendment filed February 13, 2003; effective April 29, 2003.

0780-2-15-.09 REPEALED.

Authority: T.C.A. §§68-105-108 and 68-105-116. **Administrative History:** Original rule filed July 11, 1991; effective August 25, 1991. Repeal filed February 13, 2003; effective April 29, 2003.

0780-2-15-.10 REPEALED.

Authority: T.C.A. §§68-105-108 and 68-105-116. **Administrative History:** Original rule filed July 11, 1991; effective August 25, 1991. Repeal filed February 13, 2003; effective April 29, 2003.

0780-2-15-.11 REPEALED

Authority: T.C.A. §§68-105-108 and 68-105-116. **Administrative History:** Original rule filed July 11, 1991; effective August 25, 1991. Repeal filed February 13, 2003; effective April 29, 2003.